

# IRtech Radiamatic serie IR20 LS

Termometro Infrarosso da processo Avanzato con Doppio Puntatore Laser

**IRtech**  
Infrared Technology

- Campo temperatura fino 2200°C
- Risoluzione ottica fino a 300:1  
Close focus 0,5mm
- 8-14 $\mu$ m, 1.6 $\mu$ m, 1 $\mu$ m, 2.3 $\mu$ m,  
3.9 $\mu$ m, 4.2 $\mu$ m, 4.6 $\mu$ m,  
5.1 $\mu$ m and 7.9 $\mu$ m  
Banda Spettrale
- Puntatore Doppio Laser con  
identificazione reale  
dimensione target
- Uscita Analogica 4-20mA, V, Tc J/K
- Scheda Doppio Allarme
- Fino a 85°C di temperatura  
ambiente senza raffreddamento
- Fino a 1mS di tempo risposta
- Processore di segnale avanzato
- Unità di controllo remoto con  
display e tastiera
- Interfacce USB / RS232 / RS485  
Profibus,CANbus e Ethernet con  
software Windows IR Settings



IRtech Radiamatic serie IR20 LS è un termometro infrarosso da processo avanzato composto da una testina di misura ed un'elettronica separata. L'unità di controllo rende semplice l'avviamento e la manutenzione. Tutte le impostazioni, inclusa l'emissività, sono disponibili tramite il pannello e possono essere modificate con la tastiera integrata. Il doppio puntatore laser agevola l'allineamento del pirometro indicando l'area reale di misura. Il laser può essere acceso direttamente dalla tastiera o in remoto con l'interfaccia digitale. La temperatura della testina di misura è monitorata e viene effettuato lo spegnimento del laser in automatico sopra i 50°C. Lo slot di espansione modulare permette di aggiungere delle schede di espansione come le interfacce digitali USB, RS232, RS485, Profibus, Can, Ethernet e la scheda con due relè di allarme. Questo permette di evitare l'installazione di un indicatore aggiuntivo. Il processore di segnale avanzato permette l'utilizzo di funzioni come la media, il peak picker, la programmazione remota dell'emissività, la compensazione della temperatura ambiente e molte altre funzioni.

[www.irtec.it](http://www.irtec.it)

Le caratteristiche sono relative alle migliori prestazioni di ogni modello in configurazione completa.

### Modelli

Modelli	Campo Temp.	FF 3600mm	SF 1200mm	CF1 70mm	CF2 150mm	CF3 200mm	CF4 450mm
814 75:1	-50-975°C	non disp.	16mm	0,9mm	1,9mm	2,75mm	5,9mm
814 FAST 50:1	-50-975°C 9mS	non disp.	24mm	1,4mm	3mm	4mm	9mm
100 160 L 150:1	100L : 485-1050°C 160L : 250-800°C	24mm	7,3mm	non disp.	1mm	1,3mm	3mm
100 160 H 300:1	100H : 650-1800°C 160H : 385-1600°C 100H1 : 800-2200°C 160H1 : 490-2000°C	12mm	3,7mm	non disp.	0,5mm	0,7mm	1,5mm
230 L 60:1	50-400°C	60mm	18,3mm	1,2mm	2,5mm	3,3mm	7,5mm
230 H 100:1	100-600°C	36mm	11mm	0,7mm	1,5mm	2mm	4,5mm
230 H1 H2 H3 100:1	H1: 150-1000°C H2: 200-1500°C H3: 250-1800°C	12mm	3,7mm	non disp.	0,5mm	0,7mm	1,5mm
510 L 45:1	100-1200°C	non disp.	27mm	1,6mm	3,4mm	4,5mm	10mm
510 H 70:1	250-1650°C	non disp.	17mm	1mm	2,2mm	2,9mm	6,5mm
390 420 460 45:1	200-1400°C	non disp.	27mm	1,6mm	3,4mm	4,5mm	10mm
790 45:1	0-500°C	non disp.	27mm	1,6mm	3,4mm	4,5mm	10mm

### Specifiche Comuni

**Emissività / Trasmittanza :**  
Regolabile tra 0.100 - 1.100

**Temperatura di lavoro:**  
-20 fino a 85°C (laser acceso fino a 50°C)  
10-95% RH non condensante  
Elettronica : 0 to 85°C  
Immagazzinaggio -40 to +85°C

**Vibrazioni & Shock:**  
IEC 68-2-6: 3G, 11-200Hz, qualsiasi asse  
IEC 68-2-27: 50G, 11mS, qualsiasi asse

**Grado di protezione :**  
IP65 (NEMA-4)

**Uscita Analogica :**  
0/4-20mA (500ohm), 0-5/10V, Tc J,K, Alarm

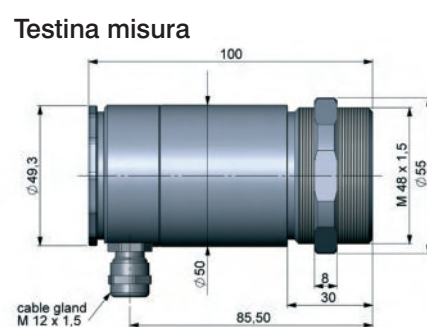
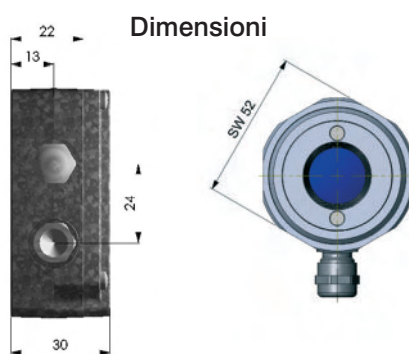
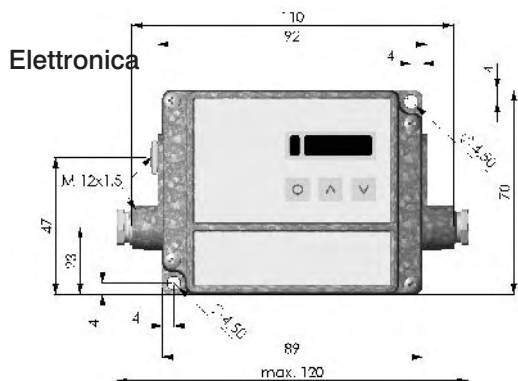
**Ingresso Analogico:**  
External emissivity, ambient temperature compensation, trigger

**Schede uscita digitale:**  
Relay : 2x60V DC / 42 V ACeff; 0,4A;  
isolata otticamente

USB, RS232, RS485, CAN, Profibus, Ethernet

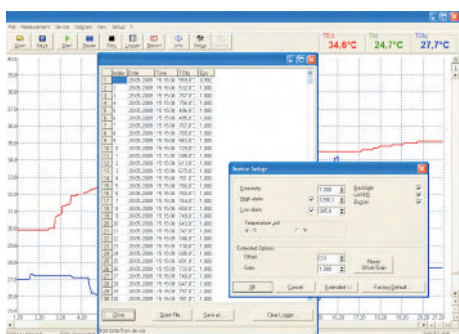
**Alimentazione:**  
8..36 V DC

**Funzioni:**  
Peak hold, Valley hold, media, hold esteso, soglia e isteresi.



### ● Software Windows IR Settings

Il software permette l'impostazione del sensore ed il controllo remoto. Il grafico in tempo reale permette di visualizzare e memorizzare le misure di temperatura con velocità fino a 1mS.



### Codice d'Ordine

**Codice**      **Modello**  
**IR20 LS**      **IRtech IR20** include dado di fissaggio, staffa ACCTLFB & manuale istruzioni.

#### Tabella A Banda spettrale e Campo di misura ( vedi tabella sopra )

814 - 814 FAST - 100 L - 100H  
160 L - 160 H - 230 L - 230 H  
230 H1 - 230 H2 - 230 H3 - 510 L - 510 H  
390 - 420 - 460 - 790

#### Tabella B Ottica ( vedi tabella sopra e pagine seguenti )

SF      Ottica Standard  
CFx      Ottica Close focus (Macro)  
FF      Ottica Tele Fuoco Lontano

#### Tabella C Cavo Testina / Elettronica ( standard 3mt )

C8-15      8/15 mt cavo standard  
C3H-8H-15H 3/8/15 mt cavo alta temperatura

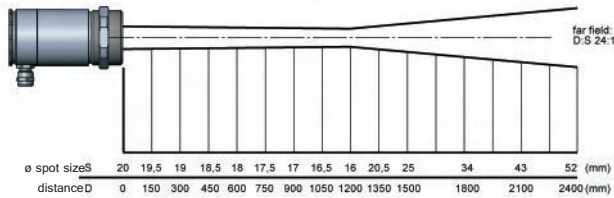
#### Tabella D Certificato di calibrazione

0      nessuno  
C      Tracciabile EA con dati

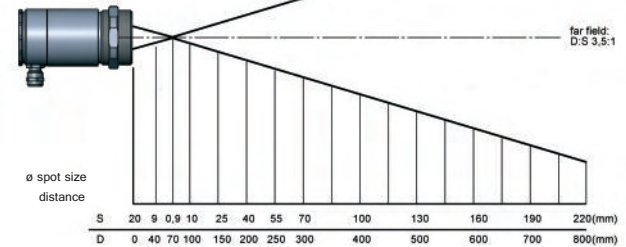
**IR20 LS - 814 - SF - C3 - 0**      Esempio di codice d'ordine

**Optiche**

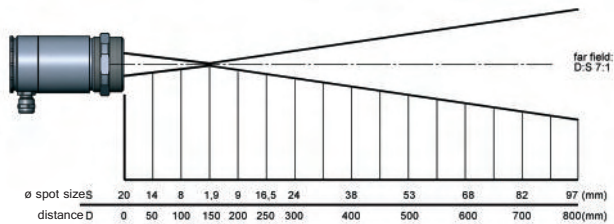
SF optics 75:1



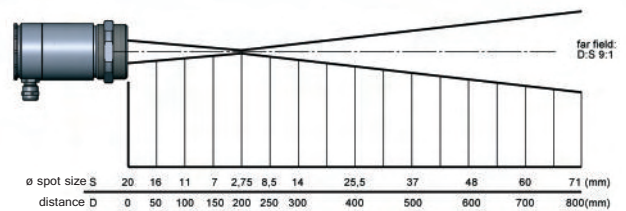
CF1 optics 75:1



CF2 optics 75:1

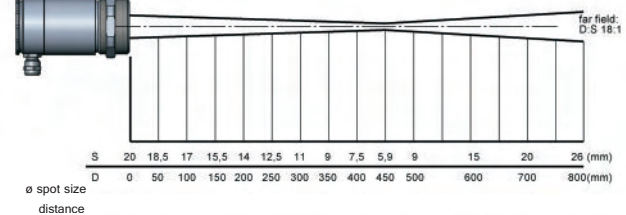


CF3 optics 75:1

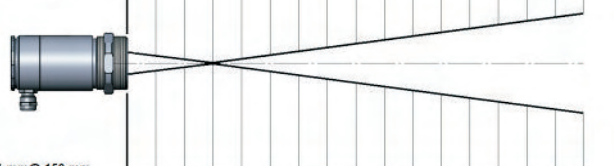


**IRtec Radiamatic IR 20 LS 814**

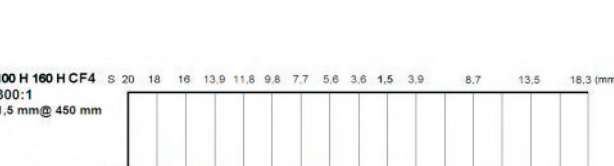
CF4 optics 75:1



100 H 160 H CF2 300:1  
0,5 mm@ 150 mm



1 mm@ 150 mm  
100 L 160 L CF2 150:1



100 H 160 H CF4 300:1  
1,5 mm@ 450 mm

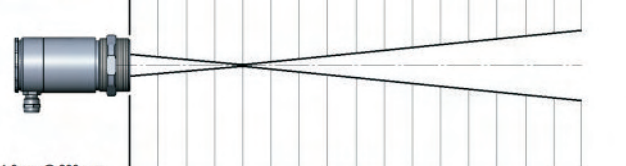


3 mm@ 450 mm  
100 L 160 L CF4 150:1

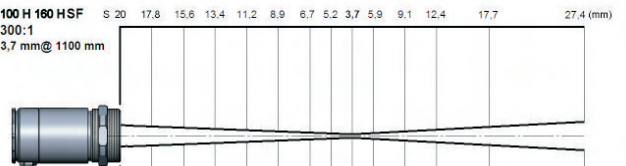
D = Distance  
S = Spotsize

**IRtec Radiamatic IR 20 LS 100 160**

100 H 160 H CF3 300:1  
0,7 mm@ 200 mm



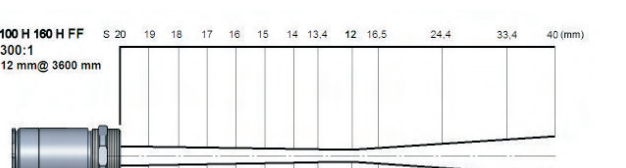
1,3 mm@ 200 mm  
100 L 160 L CF3 150:1



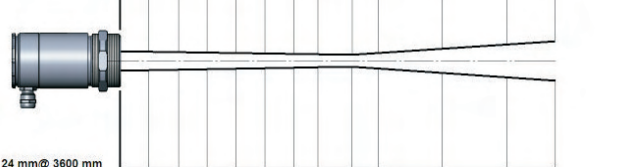
100 H 160 H SF 300:1  
3,7 mm@ 1100 mm



7,3 mm@ 1100 mm  
100 L 160 L SF 150:1

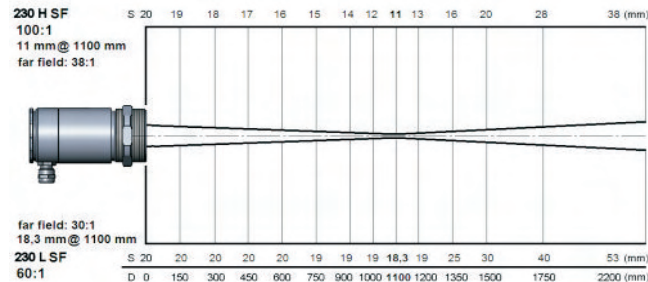
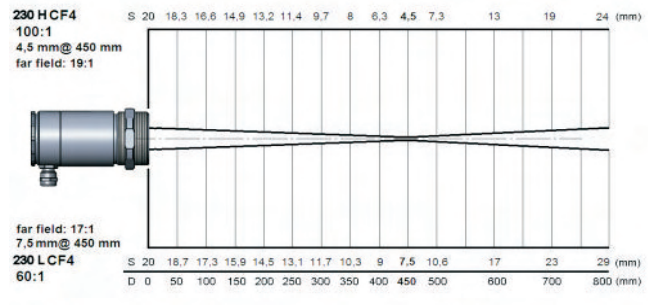
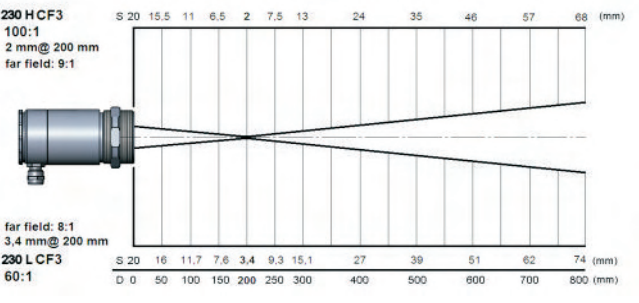
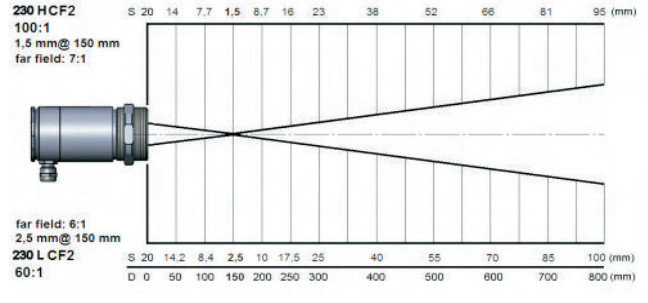
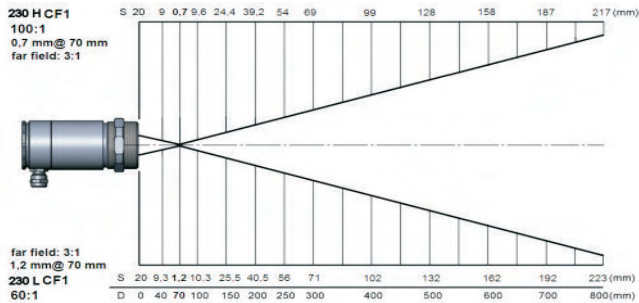


100 H 160 H FF 300:1  
12 mm@ 3600 mm



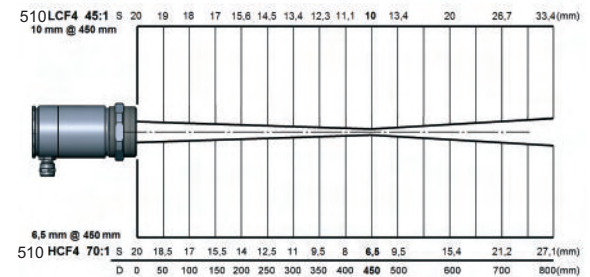
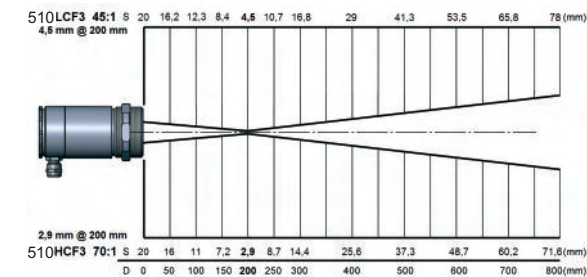
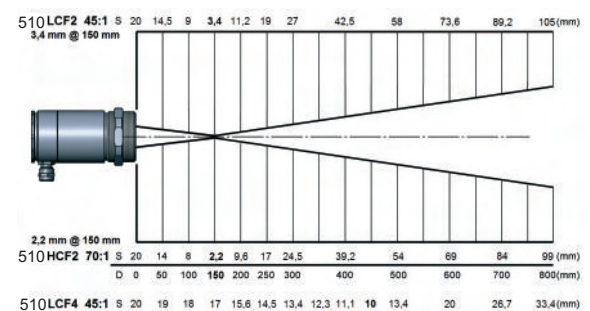
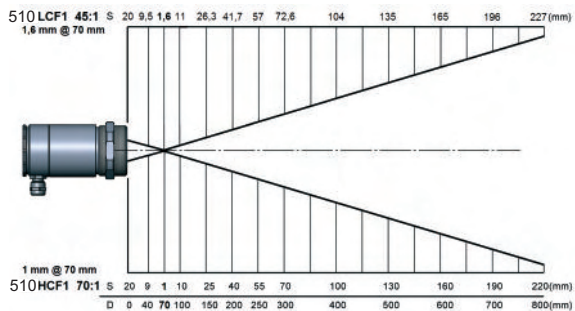
24 mm@ 3600 mm  
100 L 160 L FF 150:1

### Optiche



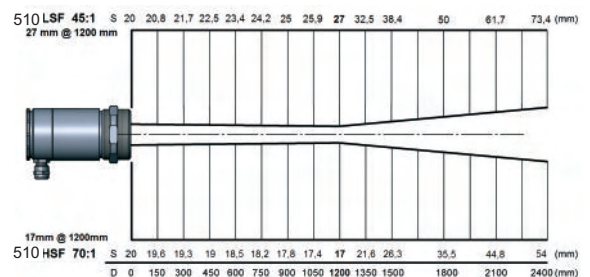
D = Distance  
S = Spotsize

### IRtec Radiamatic IR 20 LS 230



D = Distance  
S = Spotsize

### IRtec Radiamatic IR 20 LS 510



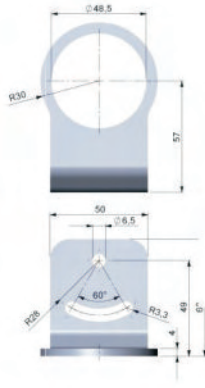
### Modelli

Base Model	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20	Radiamatic IR20							
Type	230 T100/T300	LS 814 T75	FAST LS 8140 T50	Radiamatic IR20	LS 100 T150/T300	Radiamatic IR20	LS 160 T150/T300	Radiamatic IR20	LS 230 T100/T300	Radiamatic IR20	LS 390 T45	Radiamatic IR20	LS 420 T45	Radiamatic IR20	LS 460 T45	Radiamatic IR20	LS 510 T45/T70	Radiamatic IR20	LS 790 T45	
Classification/ special features	Advanced 2.3 sensor for laser processing applications	Advanced 8-14 sensor with laser sighting, programming keys and display	Advanced 8-14 sensor with laser sighting and fast response time	Advanced 1 sensor with laser sighting for high temp. metal applications	Advanced 1.6 sensor with laser sighting for high temp. metal applications	Advanced 1.6 sensor with laser sighting for high temp. metal applications	Advanced 1.6 sensor with laser sighting for high temp. metal applications	Advanced 2.3 sensor with laser sighting for low/ medium temp. metal applications	Advanced 3.9 sensor with laser sighting for measurement through flames	Advanced 4.2 sensor with laser sighting for measurement of CO <sub>2</sub> flame gas temperatures	Advanced 4.6 sensor with laser sighting for measurement of CO <sub>2</sub> flame gas temperatures	Advanced 5.1 sensor with laser sighting for thin plastic film temperature measurement	Advanced 7.9 sensor with laser sighting for thin plastic film temperature measurement							
Detector	extended InGaAs	Thermopile	Thermopile	Si	InGaAs	InGaAs	InGaAs	extended InGaAs	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile	Thermopile	
Sensing head exchangeable	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Head cable shortening	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Thread (sensing head)	M30x1	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5	M48x1.5
Spectral range	2-3 μm	8-14 μm	8-14 μm	1.0 μm	1.6 μm	1.6 μm	1.6 μm	2.3 μm	3.9 μm	4.24 μm	4.64 μm	5 μm	5 μm	5 μm	5 μm	5 μm	5 μm	5 μm	7.9 μm	7.9 μm
Temperature ranges	H: 100...600°C H1: 150...900°C H2: 200...1200°C H3: 400...1800°C	-40...975°C	-40...975°C	L: 485...1050°C H: 650...1800°C H1: 800...2200°C	L: 250...800°C H: 385...1600°C H1: 490...2000°C	L: 250...800°C H: 385...1600°C H1: 490...2000°C	L: 250...800°C H: 385...1600°C H1: 490...2000°C	L: 50...400°C H: 100...600°C H1: 150...1000°C H2: 200...1500°C H3: 250...1800°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	200...1400°C	0...500°C
Temperature resolution	0.1°C	0.1°C	0.5°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.1°C	0.5°C	0.5°C
Optical resolution	H: 100:1 H1-H3: 300:1	75:1	50:1	L: 150:1/H: 300:1	L: 150:1/H: 300:1	L: 150:1/H: 300:1	L: 150:1/H: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1	L: 60:1/H: 100:1/ H1-H3: 300:1
Option: CF lens	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smallest spot (CF optics/ add. CF lens)	0.7mm@70mm	0.9mm@70mm	1.4mm@70mm	0.5mm@150mm	0.5mm@150mm	0.5mm@150mm	0.5mm@150mm	0.7mm@70mm	0.7mm@70mm	0.7mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm	1.6mm@70mm
Smallest spot (SF optics)	36mm@3600mm	16mm@1200mm	24mm@1200mm	3.7mm@1100mm	3.7mm@1100mm	3.7mm@1100mm	3.7mm@1100mm	11mm@100mm	11mm@100mm	11mm@100mm	27mm@1200mm	27mm@1200mm	27mm@1200mm	27mm@1200mm	27mm@1200mm	27mm@1200mm	27mm@1200mm	27mm@1200mm	27mm@1200mm	27mm@1200mm
Sighting	-	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser	double laser
Response time (90%)	1ms	120ms	9ms	1ms	1ms	1ms	1ms	1ms	1ms	1ms	10ms	10ms	10ms	10ms	10ms	10ms	10ms	10ms	10ms	150ms
Accuracy	±(0.3% T <sub>meas</sub> +2°C)	±1°C or ±1%	±1.5°C or ±1.5%	±(0.3% T <sub>meas</sub> +2°C)	±(0.3% T <sub>meas</sub> +2°C)	±(0.3% T <sub>meas</sub> +2°C)	±(0.3% T <sub>meas</sub> +2°C)	±(0.3% T <sub>meas</sub> +2°C)	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1°C or ±1%	±1.5°C or ±1%	±1.5°C or ±1%
0-20mA/ 4-20mA/ 0-5V/ 0-10V/ t/c (K/J)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Second analog output	-	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USB/RS232/RS485/ Profibus/ Ethernet	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Peak/ Valley/ AVG/ Advanced hold	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T <sub>amb</sub> Head min.	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C
T <sub>amb</sub> Head max.	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C
T <sub>amb</sub> Electronics max.	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C	85°C
Functional inputs/ number	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3	■ / 3
External emissivity adjustment	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
External ambient control	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Trigger input for reset of hold functions	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Digital I/O pins	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Simultaneous analog and digital output	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Alarm output alternatively to analog output	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Additional alarm output	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Power supply	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC
Standard cable length	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m	3m
Cable length options	-	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m	8/15m

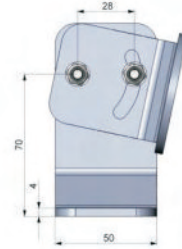
**Accessori Meccanici**



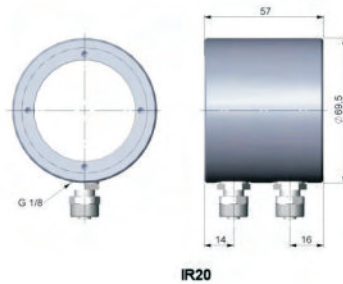
IR20 laser with water cooled housing and air purge collar



Mounting bracket (fixed) for IR20 laser

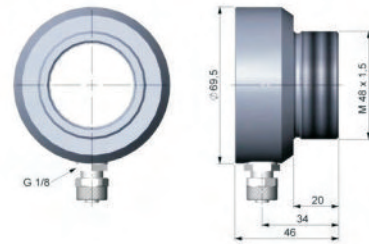


Mounting bracket (adjustable) for IR20 laser

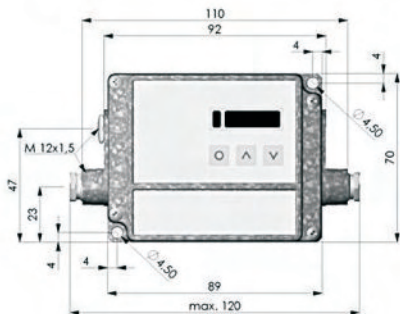


IR20

Water cooled housing for IR20 laser



Air purge collar for IR20 laser



Electronics for IR20 laser



DIN rail mount adaptor for IR20 electronics

